

ABSTRACT OF THE DISCLOSURE

A fuel gas production apparatus includes a reforming mechanism, a cooling mechanism connected an outlet side of the reforming mechanism and a PSA mechanism directly connected to the reforming mechanism through the cooling mechanism. The reforming mechanism uses an auto-thermal reforming system for reforming a fuel to obtain a reformed gas. The cooling mechanism cools the reformed gas to a predetermined temperature. After the reformed gas is cooled by the cooling mechanism, the PSA mechanism removes impurities from the reformed gas to produce a hydrogen-rich pure fuel gas.